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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/811,115

03/26/2004

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250908-1250

9230

24504 7590 12/12/2007  
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EXAMINER

YOUNG, NICOLE M

ART UNIT

PAPER NUMBER

2139

MAIL DATE

DELIVERY MODE

12/12/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/811,115

Applicant(s)

HO ET AL.

Examiner

Nicole M. Young

Art Unit

2139

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

This communication is in response to the amendment to application 10/811,115 filed September 28, 2007. Claims 1-20 are pending. Claims 1-6 and 11 have been amended.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The claims have been amended and the 112 rejections are withdrawn.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Dorrell et al. (US 2003/0123701)** hereinafter Dorrell and further in view of **Acharya et al. (US 6,654,501)** hereinafter Acharya.

**Claims 1 and 11** disclose an image protection system and method (Dorrell Figure 1 discloses an image protection system and method), comprising:

*A first image compression/encryption device, comprising:*

Dorrell does not teach a compression unit to separate an image into base image data and auxiliary image data (the Examiner interprets the auxiliary image data to be the metadata of Dorrell) according to a compression technique, and compress the base image data to compressed base image data according to the compression technique,  
*wherein the base image data and the auxiliary image data respectively comprise a part of the image contents comprising pixel values of the image*

Acharya teaches a compression unit to separate an image into base image data and auxiliary image data (the Examiner interprets the auxiliary image data to be the metadata of Dorrell and the watermark of Acharya) according to a compression technique, and compress the base image data to compressed base image data according to the compression technique, *wherein the base image data and the auxiliary image data*

*respectively comprise a part of the image contents comprising pixel values of the image*

It would have been obvious to one of ordinary skill in the art at the time invention was made to use an image as a watermark and combine the pixel values of the watermark and the base image (Archarya column 2 lines 49-66 the watermark is a image block), since Acharya states in column 2 lines 42-48 that this technique is unaffected by noise reduction techniques. Therefore the watermarked image would withstand more manipulation.

Dorrell paragraph [0058] teaches the compression of the image data and associated metadata;

an encryption unit coupled to the compression unit to receive

and encrypt the auxiliary image data to an auxiliary image data cipher; and (Doller paragraph [0061] teaches encrypting the compressed image data and associated metadata).

an image composing unit coupled to the compression unit

and the encryption unit to receive and compose the compressed base image data and the auxiliary image data cipher into a protected image corresponding to the image (Doller paragraph [0061] and [0064] teaches encrypting the compressed image data and associated metadata and paragraph [0062] teaches that the result is written to a file and stored in the memory) .

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-10 and 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Dorrell et al. (US 2003/0123701)** hereinafter Dorrell and **Acharya et al. (US 6,654,501)** hereinafter Acharya and in further view of **Fukushima (US 6,917,384)**.

Claims 2 and 12 disclose the system and method of claims 1 and 11 further comprising:

*a second* image recovery device, comprising:

an image decomposition unit to receive and decompose the

protected image into the compressed base image data and the auxiliary image data

cipher ;

a decryption unit coupled to the image decomposition unit

to receive and decrypt the auxiliary image data cipher to the auxiliary image data using

a decryption key (Dorrell paragraph [0089] teaches decrypting the metadata and image data); and

Dorrell does not teach but Fukushima teaches, a decompression unit coupled to

the image decomposition

unit and the decryption unit to receive the compressed base image data and the auxiliary image data, decompress the compressed base image data to the base image data, and combine the base image data and the auxiliary image data to recover the image according to the compression technique in column 6 lines 53-60 teach decomposition. It would be obvious to one of ordinary skill in the art at the time of invention to decompress the data to retrieve the original data that was compressed above.

Claims 3 and 13 disclose the system and method of claims 2 and 12 wherein the *first* image device further comprises a transformation unit to perform discrete wavelet transformation on the image in advance (Fukushima column 14 lines 22-30).

Claims 4 and 14 disclose the system and method of claims 3 and 13 wherein the *second* image recovery device further comprises an anti-transformation unit to perform anti-discrete wavelet transformation on the image after the image is combined (Fukushima column 10 lines 20-39).

Claims 5 and 15 disclose the system and method of claims 4 and 14 wherein the *first* image device further comprises a quantization unit to quantize each coefficient of the image after the discrete wavelet transformation (Fukushima column 8 lines 24-27).

Claims 6 and 16 disclose the system and method of claim 5 and 15 wherein the *second* image recovery device further comprises an anti-quantization unit to anti-quantize each coefficient of the image before the anti-discrete wavelet transformation (Fukushima column 9 lines 49-57).

Claims 7 and 17 disclose the system and method of claims 1 and 11 wherein the compression technique is region of interest (ROI) compression (Fukushima column 1 lines 58-62).

Claims 8 and 18 disclose the system and method of claims 1 and 11 wherein the compression technique is resolution compression (Fukushima column 7 lines 40-49 wherein the resolution is reduced to  $\frac{1}{2}$  it's size).

Claims 9 and 19 disclose the system and method of claims 1 and 11 wherein the compression technique is quality compression (Fukushima column 7 lines 40-49, resolution compression is quality compression).

Claims 10 and 20 disclose the system and method of claims 1 and 11 wherein the compression unit further compresses the auxiliary image data (Dorrell paragraph 58 teaches subsequent compressions).



Note: Examiner has pointed out particular references contained in the prior arts of record and in the body of this action for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. Applicant should consider the entire prior art as applicable to the limitations of the claims. It is respectfully requested from the applicant, in preparing for response, to consider fully the entire reference as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior arts or disclosed by the Examiner.

### ***Response to Arguments***

The Applicant argues that the metadata of Doller would include various data including date, time, flash status, focus setting, copy right or intellectual property rights. The Applicant argues that this is not part of the image comprising pixel values. The Examiner respectfully disagrees. The Examiner interprets the metadata to be stored with the pixel data of the image. The metadata would be in pixel form to use the metadata to combine with the pixel values for encryption. The amended claim 1 and 11 further limited the claims to use a part of the image itself for the auxiliary image. The Examiner has interpreted the watermark of Acharya to be used for the same reasons (copy right or intellectual property rights) as the metadata in Dorrell and be part of the image.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole M. Young whose telephone number is 571-270-1382. The examiner can normally be reached on Monday through Friday, alt Fri off, 8:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NMY  
12/07/2007

  
SYED A. ZIA 12/10/2007  
PRIMARY EXAMINER